

REMARKS

This is a full and timely response to the final Office Action of March 8, 2005.

Reexamination, reconsideration, and allowance of the application and all presently pending claims are respectfully requested.

Upon entry of this First Response, claims 1-7, 9, 11, 14, 16, 17, 19-22, 25-27, and 29-38 are pending in this application, and claims 17 and 27 have been allowed. Claims 1, 11, 22, 31, and 34 are directly amended herein, and claims 35-38 are newly added. It is believed that the foregoing amendments add no new matter to the present application.

Response to Claim Rejections

A proper rejection of a claim under 35 U.S.C. §102 requires that a single prior art reference disclose each element of the claim. See, *e.g.*, *W.L. Gore & Assoc., Inc. v. Garlock, Inc.*, 721 F.2d 1540, 220 U.S.P.Q. 303, 313 (Fed. Cir. 1983). Further, in order for a claim to be properly rejected under 35 U.S.C. §103, the combined teachings of the prior art references must suggest all features of the claimed invention to one of ordinary skill in the art. See, *e.g.*, *In Re Dow Chemical*, 5 U.S.P.Q.2d 1529, 1531 (Fed. Cir. 1988), and *In re Keller*, 208 U.S.P.Q. 871, 881 (C.C.P.A. 1981).

Claim 1

Claim 1 presently stands rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* (U.S. Patent No. 4,511,790). Claim 1 reads as follows:

1. A system for controlling a temperature of a liquid residing within a tank, comprising:
 - a temperature sensor configured to detect the temperature of the liquid;
 - a temperature control element configured to alter the temperature of the liquid;
 - a clock; and
 - logic configured to track usage of the temperature control element by monitoring an activation state of the temperature control element during a first time period while the temperature control element is being controlled based on a first temperature threshold, the logic further configured to automatically select, based on a time value indicated by the clock and the usage of the temperature control element during the first time period, a second temperature threshold for controlling the temperature control element during a second time period, the logic further configured to perform a comparison between the selected temperature threshold and a value indicative of the temperature detected by the temperature sensor during the second time period and to control the temperature control element during the second time period based on the comparison. (Emphasis added).***

Applicants respectfully assert that *Kozak* fails to suggest at least the features of claim 1 highlighted hereinabove. Accordingly, the 35 U.S.C. §103 rejection of claim 1 is improper.

In this regard, *Kozak* apparently teaches a water heater that determines data indicative of a total operation period for each of its heating elements, and the water heater appears to selectively activate the heating elements based on this data such that the total activation times of all of the heating elements are about equal. Further, it is alleged in the Office Action that *Kozak* discloses:

“logic further configured to automatically select, based on a time value indicated by the clock and the usage of the temperature control element during the first time period (Col. 7, lines 17-35 and lines 58-62), a second temperature threshold for controlling the temperature control element (Col. 7, lines 65- col. 8, line 6 and Col. 8, lines 23-30, please note that by activating more heating elements a second temperature threshold is selected).”

However, Applicants have reviewed the cited sections of *Kozak* and can find no teaching suggesting that any “temperature threshold” should be selected based on a “time value indicated by (a) clock,” as described by claim 1.

In this regard, *Kozak* teaches that the difference between a sensed water temperature and a temperature setting is to be divided by a span setting. This “differential” is then apparently compared to a threshold. See column 7, lines 64, through column 8, line 1. Applicants note and the Patent Office apparently agrees that there is nothing to indicate that this threshold should be based on a “a time value indicated by a clock and a usage of the temperature control element.” Moreover, a constant appears to be added to the aforescribed “differential,” and this sum is compared to the “number” of activated heating elements. See column 8, lines 1-6. Such comparison controls whether a heating element is activated, and this “number” appears to constitute the alleged “second threshold.” In this regard, it is alleged in the Office Action that “please note that by activating more heating elements (in *Kozak*) a second temperature threshold is selected.”

Applicants respectfully assert that there is nothing to indicate that the foregoing “number” described at column 8, lines 1-6 of *Kozak* is based in any way on a “time value from a clock.” In particular, the “number” simply indicates how many heating elements are activated. Accordingly, *Kozak* fails to suggest a “temperature threshold” that is selected based on a “*time value indicated by the clock* and the usage of the temperature control element,” as described by claim 1. (Emphasis added).

For at least the above reasons, Applicants respectfully submit that *Kozak* fails to suggest each feature of pending claim 1. Accordingly, the 35 U.S.C. §103 rejection of claim 1 should be withdrawn.

Claims 2-7, 9, 35, and 36

Claims 1-3, 5-6, and 9 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak*. Further, claim 4 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* in view of Dosani (U.S. Patent No. 5,808,277), and claim 7 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* in view of Day (U.S. Patent No. 6,375,087). In addition, claims 35 and 36 have been newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 2-7, 9, 35, and 36 contain all features of their independent claim 1. Since claim 1 should be allowed, as argued hereinabove, pending dependent claims 2-7, 9, 35, and 36 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 11

Claim 11 presently stands rejected under 35 U.S.C. §102 as allegedly being anticipated by *Kozak*. Claim 11 reads as follows:

11. A system, comprising:
a tank;
a temperature sensor configured to detect a temperature of a liquid
residing within the tank;
a temperature control element coupled to the tank;
memory for storing data indicative of a usage history of the temperature
control element; and
logic configured to automatically select, based on the data, a threshold to
be used for controlling the temperature control element, the logic further
configured to control the temperature control element based on a comparison of
the threshold to a value indicative of the temperature detected by the temperature
sensor, ***wherein the threshold is not based on a current activation state of the
temperature control element at the time of selection for the threshold.***
(Emphasis added).

Applicants respectfully assert that the *Kozak* fails to disclose at least the features of claim 11 highlighted hereinabove. Accordingly, the 35 U.S.C. §102 rejection of claim 11, as amended, is improper.

In this regard, at page 4 of the Office Action, it is alleged that *Kozak* teaches a “threshold for controlling the temperature control element (Col. 7, lines 65- col. 8, line 6 and Col. 8, lines 23-30).” In these cited sections, *Kozak* discloses that a difference between the water temperature and a temperature setting is divided by a span setting, and a constant is apparently added to produce a “condition number.” This “condition number” is compared to a “number” of activated heating elements. Thus, the “number” is based on whether each of the heating elements is activated and, therefore, fails to constitute a “threshold” that “is *not* based on a current activation state of the temperature control element at the time of selection for the threshold,” as described by claim 11. (Emphasis added).

For at least the above reasons, Applicants respectfully assert that *Kozak* fails to disclose each feature of pending claim 11. Accordingly, the 35 U.S.C. §102 rejection of claim 11 should be withdrawn.

Claims 14, 16, 19-21, 30, and 37

Claims 14, 21, and 30 presently stand rejected in the Office Action under 35 U.S.C. §102 as allegedly being anticipated by *Kozak*. Further, claim 16 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* in view of *Dosani*, and claims 19 and 20 presently stand rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* in view of *Day*. In addition, claim 37 has been newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 14, 16, 19-21, 30, and 37 contain all features of their independent claim 11.

Since claim 11 should be allowed, as argued hereinabove, pending dependent claims 14, 16, 19-21, 30, and 37 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 22

Claim 22 presently stands rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak*. Claim 22 reads as follows:

22. A system, comprising:
a tank;
a temperature sensor coupled to the tank;
a temperature control element for controlling a temperature of a liquid residing within the tank; and
logic configured to determine a value indicative of a total amount of time that the temperature control element is activated during a first time period and to establish a temperature threshold for a second time period based on the value, the logic configured to perform a comparison between the temperature threshold and a value indicative of a temperature of the liquid detected by the temperature sensor during the second time period, the logic further configured to control the temperature control element based on the comparison. (Emphasis added).

Applicants respectfully assert that *Kozak* fails to suggest each feature of claim 22. Accordingly, the 35 U.S.C. §103 rejection of claim 22, as amended, is improper.

In this regard, it is alleged in the Office Action that *Kozak* teaches “logic configured to determine a value indicative of an amount of time that the temperature control element is activated during a first time period (Col. 7, lines 17-23) and to establish a temperature threshold based on the value (Col. 8, lines 23-30).” At column 8, lines 23-30, *Kozak* discloses a “number” that is indicative of how many heating elements are activated. However, such “number” is not based on any value that is “indicative of a ***total amount of time*** that (a) temperature control element is activated.” (Emphasis added). Indeed, although *Kozak* appears to disclose determining a value indicative of a total activation time for a heating element, such

value appears to control *which* heating elements are activated and, in particular, not the total “number” of heating elements that are activated. Accordingly, the “number” described at column 8, lines 23-30, is not based on the recorded “total operating period” described at column 7, lines 17-23. Therefore, the Office Action fails to establish that the cited art suggests at least the features of claim 22 highlighted hereinabove.

For at least the above reasons, Applicants respectfully assert that the cited art fails to suggest each feature of claim 22. Accordingly, the 35 U.S.C. §103 rejection of claim 22 should be withdrawn.

Claims 25, 26, 29, and 38

Claim 25 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* in view of *Day*. Further, claim 26 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak* in view of *Dosani*, and claim 29 presently stands rejected in the Office Action under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak*. In addition, claim 38 has been newly added via the amendments set forth herein. Applicants submit that the pending dependent claims 25, 26, 29, and 38 contain all features of their independent claim 22. Since claim 22 should be allowed, as argued hereinabove, pending dependent claims 25, 26, 29, and 38 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 31

Claim 31 presently stands rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak*. Claim 31 reads as follows:

31. A method, comprising the steps of:
selectively activating a temperature control element to keep a liquid within a tank within a desired temperature range during a first time period;
detecting activations of the temperature control element during the first time period;
automatically selecting a temperature threshold for the temperature control element based on the detecting step and a time value indicated by a clock;
measuring a temperature of the liquid during a second time period;
comparing a value indicative of the measured temperature to the temperature threshold; and
activating the temperature control element based on the comparing.
(Emphasis added).

For at least reasons similar to those set forth above in the arguments for allowance of claim 1, Applicants respectfully assert that *Kozak* fails to suggest at least the features of claim 31 highlighted hereinabove. Accordingly, the 35 U.S.C. §103 rejection of claim 31 should be withdrawn.

Claims 32 and 33

Claims 32 and 33 presently stand rejected under 35 U.S.C. §103 as allegedly being unpatentable over *Kozak*. Applicants submit that the pending dependent claims 32 and 33 contain all features of their independent claim 31. Since claim 31 should be allowed, as argued hereinabove, pending dependent claims 32 and 33 should be allowed as a matter of law for at least this reason. *In re Fine*, 5 U.S.P.Q.2d 1596, 1600 (Fed. Cir. 1988).

Claim 34

Claim 34 presently stands rejected under 35 U.S.C. §102 as allegedly being anticipated by *Kozak*. Claim 34 reads as follows:

34. A method, comprising the steps of:
detecting changes in temperature of a liquid within a tank over time;
activating a temperature control element based on the changes in temperature;
tracking an activation state of the temperature control element;
defining, based on the tracking step, a schedule of classified time slots, each of the time slots classified based on an amount of time that the temperature control element is activated during a time period corresponding to the respective time slot;
automatically selecting a temperature threshold based on the schedule of classified time slots; and
controlling the temperature control element based on the selected temperature threshold. (Emphasis added).

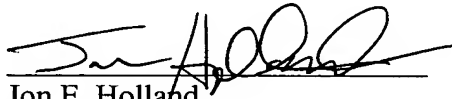
Kozak discloses a water heater but fails to disclose defining a “schedule,” as described by pending claim 34. Accordingly, *Kozak* fails to disclose at least the features of claim 34 highlighted hereinabove, and the 35 U.S.C. §102 rejection of claim 34, as amended, should be withdrawn.

CONCLUSION

Applicants respectfully request that all outstanding objections and rejections be withdrawn and that this application and all presently pending claims be allowed to issue. If the Examiner has any questions or comments regarding Applicants' response, the Examiner is encouraged to telephone Applicants' undersigned counsel.

Respectfully submitted,

**THOMAS, KAYDEN, HORSTEMEYER
& RISLEY, L.L.P.**

By: 
Jon E. Holland
Reg. No. 41,077

100 Galleria Parkway, N.W.
Suite 1750
Atlanta, Georgia 30339
(256) 704-3900 Ext. 103